No. 2

mass = 1 kg
P1 = 60 bar
v1 = 0.0277 $m^3/_{kg}$
From 1 to 2 P = Const.
P2 = 60 bar
From 2 to 3 V = Const.
V3 = V2
P3 = 30 bar
From 3 to 1 $PV^{1.1}$ = Const.
T1 = 275.6 °C
vg1 = 0.03244 $m^3/_{kg}$
v1 = X1vg1
X1 = 0.856
$P1V1^{1.1} = P3V3^{1.1}$
V3 = 0.052 $m^3/_{kg}$
V2 = 0.052 $m^3/_{kg}$
T2 = 450 °C
T3 = 233.8 °C

V3 = X3vg3
X3 = 0.7802
W1-2 = P(V2-V1) = 145.8 $^{kJ}/_{kg}$
W2-3 = 0
W3-1 = $^{P3V3 - P2V2}/_{n-1}$ = -102 $^{kJ}/_{kg}$
Q1-2 = H2 - H1
H1 = hf + xhfg = 2581.92 $^{kJ}/_{kg}$
H2 = 3301 $^{kJ}/_{kg}$
Q1-2 = 719.08 $^{kJ}/_{kg}$
Q2-3 = U3 - U2
U3 = xug + (1-x)uf = 2251.54 $^{kJ}/_{kg}$
U2 = 3301 $^{kJ}/_{kg}$
Q2-3 = -1049.46 $^{kJ}/_{kg}$
Q3-1 = U1 - U3 + W
U1 = xug + (1-x)uf = 2390.704 $^{kJ}/_{kg}$
Q3-1 = 37.164 $^{kJ}/_{kg}$